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ARTICLE VII.

ON LEPSIUS'S STANDARD ALPHABET;*

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Presented to the Society October 17th, 1861.

MORE than once, within no long time past, inquiries have been addressed to us by those to whom the subject was one of practical importance, respecting the "Standard Alphabet" of Prof. Lepsius of Berlin: whether its method was so thorough, its results so correctly deduced, and the system of signs for sounds proposed by it so unexceptionable, that it deserved to be implicitly accepted, and should be made the absolute foundation of the reduction of new languages to a written form, and even allowed to supersede systems of orthography already for some time in use. We have therefore thought that it might be well to bring the matter before the Society at one of its meetings, when it was hoped that there would be those present who had had occasion to consider the orthographical question practically, and to make experience of its difficulties, and when, accordingly, a comparison of opinions might lead to more enlightened conclusions respecting it than are within the reach of a single inquirer. It would have been highly proper if this Society, which maintains so intimate scholarly relations with so large a body of missionaries, scattered over every part of the heathen world, had at the outset given an express examination to Prof. Lepsius's proposed system, and formally sanctioned it, if found worthy of formal

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* Standard Alphabet for reducing Unwritten Languages and Foreign Graphic Systems to a Uniform Orthography in European Letters. By Dr. R. Lepsius, etc. London: 1855. 8vo. pp. ix, 73. This is a translation of Das Allgemeine Linguistische Alphabet. Grundsätze der Uebertragung fremder Schriftsysteme und bisher noch ungeschriebener Sprachen in europäische Buchstaben. Von R. Lepsius, etc. Berlin: 1855. 8vo. pp. 64.

Since the final revision and preparation for the press of the present Article was completed (Dec. 1861), we have received two additional contributions, of very high importance and interest, made by Prof. Lepsius to the same general subject with that of the work here treated of, in the form of communications to the Berlin Academy on the Phonetic Relations and Transcription of the Chinese and Tibetan Languages, and on the Spoken Alphabet of the Arabic and its Transcription. In both of them reference is made to a second edition of the Standard Alphabet, as in course of sanction, or else offered criticisms and suggested amendments affecting it. So much might have been regarded as due to the importance of the work, the character of its author, and the auspices under which it was put forth: it having received the express approval of the Berlin Academy, one of the most eminent bodies of learned men, both philologists and physiologists, in the world, and been farther endorsed and recommended by several of the principal English and continental Missionary Societies; as well as, at a later date, by our own American Board. How extensive an actual trial and application the new alphabet has had, and what have been the results of such a practical testing of its merits, we are not fully informed: that it has been substituted at one important mission, at least—that to the Zulus in South Africa—for the alphabet formerly employed, is certain: and it is precisely from that quarter that one remonstrance or expression of dissent has been received. But such remonstrances are by no means to be taken as certain evidence of serious imperfection in a proposed orthographical system. It is a matter of common remark how extremely conservative we are in the matter of the spelling of our own language; what worshippers of the letter as well as of the word; how obstinately unwilling to write a vocable otherwise than as we have been taught to believe was the true traditional way of writing it: and the same tendency to hold fast that which is written does not quit us on foreign soil, and in dealing with strange tongues. Hence a general uniformity of orthographical method is hardly to be hoped for; the end which we may aim to attain is the providing of something like a uniform method for languages still to be reduced to writing, and a norm to which such alterations of existing orthographies as may be found practicable shall be made to conform.

If the missionaries and emissaries sent out to unlettered countries, and destined to be the first introducers there of modes of writing, had from the beginning been only Italians and Germans, the orthographical question would have worn a far less intricate

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preparation. We greatly regret that we could not have made this the basis of our examination of Prof. Lepsius's system, and had almost decided to cancel our Article, or withhold it until we could take due note of any modifications of his views which their republication should exhibit. But, in view of the fact that our criticism has already (in the Proceedings of the Society for Oct. 1861) been announced as to be published in the present number of the Journal, and considering the uncertainty of the time of appearance of the new work, and that the first edition has been very extensively circulated, in its two versions, among missionaries and others, into whose hands the second may never come, we have concluded not to stop the printer. Such changes or fuller expositions of Prof. Lepsius's views as are brought to light in the two papers referred to will be set forth in marginal notes to this article, and should the revised Standard Alphabet, on its appearance, seem to call for yet farther attention, in justice to its author, we shall make it the subject of a separate treatment.

and pressing phase than now belongs to it. Unfortunately—in this respect unfortunately—they have been, in much the greater part, men to whom was native the English language, a language whose phonetical and orthographical system is more frightfully corrupt and confused than that of any other known form of human speech; men to whom, accordingly, it seemed not unnatural to write all kinds of sounds almost all kinds of ways; who lacked a distinct conception that each single sign was originally meant to have a single sound, and each single sound a separate and invariable sign, and that, in the history of writing, certain sounds and no others originally belonged to the characters of our own alphabet. Hence, in part, the confusion, to remedy which so much effort has been expended, and with only partial success. But there is also another, and a more deeply seated cause. Our written system is a scanty, and a rigid and non-elastic thing, compared with our spoken systems. The European alphabet, as it may well enough be called now, was invented—or, rather, modified into nearly its present form—to suit the Latin language at a certain stage of its development. Now phonetical systems grow, both by alteration and by extension; a still scantier system of characters would have answered the purposes of the Latin at a considerably earlier period in its history; but there is not one of the daughters of the Latin which is not both pinched and distorted in the tight and ill-fitting orthographical dress of the mother-tongue. More than this, some languages, or whole families of languages, offer sounds which Latin organs never formed; and these, too, must have their representatives in a general scheme. And yet once more, sounds, occurring in languages either nearly akin with one another or of altogether diverse descent, which to a dull ear, or on brief and imperfect acquaintance, appear quite the same, are yet found, after an intimate familiarity formed with them, to be distinguished by slight differences of quality, dependent upon slightly varying positions of the mouth-organs in their utterance. From these various causes arises the necessity of eking out an imperfect scheme of written characters, in order to make it represent sufficiently a greater number of sounds. This is evidently a thing which cannot be done upon principles commanding universal assent, by the application of rules admitting of distinct statement and impregnable demonstration: it is one into which considerations of history, of usage, of practical convenience, must enter, and which therefore cannot but be differently solved by different people, according to the variations of individual preference: given a system of sounds to be represented, and a system of signs by modified forms of which the representation must be made, and ten different laborers will produce ten different alphabets, each, perhaps, having its advantages, and such that between two or three of them any one may find it hard to select the best. In order, then, to produce an alphabet for general use, two things, of quite diverse character, are requisite: first, a thorough acquaintance with all matters pertaining to the system of articulate sounds and their established representatives—including an understanding of the physiology of the voice and the mode of production of spoken sounds, an acquaintance with the origin and history of alphabets and the primitive and now prevailing values of the characters composing them, and a familiarity with many tongues, of varying type—and second, such prominence before the eyes of the world, such acknowledged weight as an authority, such support from those for whose sake the work is done, as shall give that work at once a general currency, and recognition as a conventional standard. This second requisite is apt to receive less acknowledgment than it deserves; but it must be evident on a slight consideration that where, in the nature of the case, actual completeness cannot possibly be attained, nor universal satisfaction given, it will be better to accept *in toto* a system which has been and is likely to be accepted by a great many others, than either to alter it considerably, to suit our own ideas, or to take another system, which may be more to our mind, but which will probably be known to and noticed by only a few. And it appears to us that the Standard Alphabet of Prof. Lepsius may at least be claimed to unite and embody these different requisites in a higher degree than any other which has hitherto been put forth.

In the first place, as regards its vogue and acceptance. The name itself of Lepsius is sufficient to attract a high degree of attention and favor to anything to which it is attached. Whereever throughout the world there are scholars, there he is known as one of the foremost scholars of the age, distinguished alike in philology, in archæology, and in history. This work of his, moreover, was brought out under most favorable auspices. It was formally discussed and accepted, before publication, at a convention in London of men representing the most important interests to be affected by such a work. It has since been endorsed by the authorized representatives of four English societies, one French, three German, and one American, as we are informed in the Advertisement prefixed to the book as it lies in our hands: what other associations may since have followed their example, we do not know. This general acceptance, while it is a telling testimony in favor of the work itself, furnishes also a powerful reason why we should incline to take the most favorable view possible of it, even overlooking defects of not too serious a character which it may be found to contain, for the sake of securing a uniformity long desired, and now more hopefully in prospect than ever before. Of course, however, if the new system prove false in its fundamental principles, imperfect in its execution, or cumbersome in use, no weight of authority should prevail on us to give it our endorsement. Let us therefore inquire more particularly into our author's qualifications for the task he undertook, and examine critically his method and its results.

That Lepsius, before he threw himself especially into the study of Egyptian antiquity, had distinguished himself by philological and palæographical researches exhibiting great learning and great acuteness, is well known to all students of language. That since that time he has devoted much attention to phonology is less known, but not less true. In the year 1853, he exhibited to the writer at Berlin the nearly-completed manuscript of an extended work on phonetics, and explained its general plan and execution. That work has never yet been published, but the one before us may be regarded as founded upon it, perhaps in part excerpted from it. How wide is the basis of observation and comparison upon which its system has been founded is evidenced by the series of more than fifty languages—half of them African, the rest Asiatic, Polynesian, and American—to which, at the close of the little manual, the standard alphabet is applied. We thus have the fullest assurance that we are not solicited to accept the results of a hasty and half-digested, or of a narrow and one-sided, series of investigations; and we cannot help entering upon their examination with no small degree of prepossession in their favor.

A principal distinctive peculiarity claimed to belong to the Standard Alphabet of our author is that it is founded on a physiological basis. The exposition of this basis is, for the sake of brevity, omitted in the treatise; we are left to judge it from the results it yields, in the classification and arrangement of the sounds of the spoken alphabet offered, and in the selection of the signs allotted to them. The claim means, doubtless, that the alphabet is to be looked upon as underlaid by a correct analysis and description of the whole system of articulate sounds, or as involving an accurate determination of the manner in which each is produced, both absolutely, and relatively to others. This is, of course, a prime requisite, without which no alphabet-maker can be anything but a bungler. It does not necessarily imply, however, a knowledge of the anatomy of the vocal organs, a detailed understanding of the construction and action of the parts of the throat which are concerned in the production of sound—although this subject is a highly interesting and curious one, and well repays study. For the organs employed in giving individual and articulate form to the material—unintonated or intonated breath—furnished by the lungs to the mouth for the purposes of speech, are sufficiently within the reach of conscious observation to enable any one who has trained himself to watch their operations to describe and explain, with sufficient minuteness, the mode of production of the sounds which he utters. There is also another requisite, hardly less fundamental, and which, though not put prominently forward by Prof. Lepsius, is a distinguishing characteristic of his work: one must be thoroughly acquainted with the history, original significance, and various applications of the characters out of which the alphabet is to be constructed. With these two—a thorough comprehension of the sounds for which signs are to be provided, and a complete knowledge of the signs to be employed to represent them—one may hope for a valuable result to his labors: the lack of either would be equally fatal to success.

As we cannot in all points approve and accept the physiological basis upon which our author's alphabet is constructed, we propose to offer here some criticisms upon it, although they may affect only here and there, and in a subordinate degree, the practical result of his work, or the system of signs selected to compose the written alphabet.

In the first place, we object to the division of the spoken alphabet, in a physiological discussion, into the two distinct classes of vowels and consonants. This is a convenient practical classification, but it possesses only a superficial correctness. Even common usage is compelled to bridge over the gulf apparently assumed to exist between the two, by the admission of a class of "semivowels"—that is to say, of sounds which are half vowel and half consonant. In fact, vowel and consonant are only the opposite poles of a continuous line of progression, the successive steps of which are marked by the degrees of approximation of the mouth organs toward a complete closure. All sounds pronounced with more than a certain degree of openness have the quality which we call vocal, and are, to our apprehension, decidedly vowels; all, on the other hand, which have more than a certain degree of closeness possess the consonantal quality only, and are as distinctly consonants. But there is between these two degrees a neutral territory, so to speak; there are degrees of closure producing sounds which, without change of quality, may have the value either of consonants or of vowels. On this neutral ground stand the semivowels, the nasals, and even, in one or two exceptional cases, the sibilants. We cannot sanction, then, a theoretical system which makes the distinction of vowel and consonant absolute and fundamental, which holds the two classes apart from one another, and adopts for them two different methods of classification and arrangement: the unity which belongs to the alphabet as a whole, as a single concordant system, is thus, in our opinion, quite broken up or obscured. In seeking for a principle of arrangement under which to marshal the whole alphabet, we would adopt the same on which is founded the distinction of vowel and consonant, but we would apply it in a different manner. The ground of distinction is virtually the antithesis of material and form, and the preponderance of the one or of the other. The material is the stream of breath, unintonated or intonated, furnished by the lungs, or by the lungs and larynx, to the mouth organs: the form consists in the modifying action of the latter, converting the material into the greatly varied products which constitute the system of articulate sounds. Now the vowel *a* ("Italian *a*," as in *car*, *father*) is pure material: if the mouth be opened wide, all its organs retained inactive, and the intonated breath suffered to stream forth unimpeded and unmodified, this vowel sound is the result. *A*, then, with this its original and proper value, has a right in theory to stand, as in practice it so generally does stand, at the head of the alphabet. On the other hand, the forming element, the approach and modifying influence of the mouth organs, may be suffered to extinguish the material, as it were, by complete closure, and entire stoppage of the emission of breath, as in the production of the letters we call mutes: these, then, constitute the extreme limit of the alphabet on the consonantal side, as *a* on the vowel side; and between the perfectly open *a* and the entirely close *k*, *t*, *p*,* must admit of being arranged the whole system of spoken sounds. And not only do all the other sounds lie between these two extremes, but we shall even find that they arrange themselves approximately along lines joining the two, or drawn from the one point *a* to the three *k*, *t*, *p*, respectively. That is to say, there are lines of progression from the neutral openness of *a* towards closure at three different points in the mouth—one produced by a contact of the upper surface of the tongue with the palate in the back part of the mouth, another by contact of the tip of the tongue with the roof of the mouth directly behind and at the base of the upper teeth, the third by contact of the lips with one another; and different degrees of approximation along these lines give rise to the other sounds of the alphabet. On the line of palatal closure, the closest position capable of producing a sound which shall possess a vowel quality gives the vowel *i* (as short and long in *pin*, *pique*). In like manner, on the line of labial closure, the closest producible vowel is *u* (as short and long in *full*, *rule*). The line of lingual closure produces no vowels. These two vowels, *i* and *u*, the farthest removed from *a* in their respective directions, are, with *a*, the most primitive and the most universally occurring of all the vowels: and manifestly for the reason that, in the development of the system of articulations, those sounds were first struck out and employed for purposes of speech which were most broadly and markedly distinguished from one another: the more nicely shaded sounds, the intermediate vowels, as also most of the fricative consonants, are the growth of a later time, the product of a longer training of both voice and ear. Between *a* and *i* on the one hand, and *a* and *u* on the other, the two vowels of intermediate position, *e* (short and long in *then, they*) and *o* (long in *note:* the English has no short *o*, except in the pronunciation, frequent in this country, but unacknowledged by the orthoepists, of a few words, as *home, stone, none*), have been first struck out, and, either in their long or short forms, or both, are present in almost all languages; and finally, a few tongues, our own among the number, have developed between *a* and *e* the sound of *a* in *hat*, and between *a* and *o* the sound of *a* in *all*, usually called by us the "short or flat *a*" and the "broad *a*" respectively. These last are written by our author with an underlined *e* and *o:* thus, *e̲*, *o̲*—a method of transcription to which, as we conceive, no valid objection can be made, and for which we are perfectly willing to relinquish the signs which we have ourselves been hitherto accustomed to use for the sounds in question.

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* Of course, the consonantal limit may consist, in any given language, of as many different members as there are mutes in that language, or points in the mouth at which complete closure is allowed to take place: for the sake of brevity and simplicity, however, we shall here take notice only of those three which are met with in almost every language, and which in a majority of languages, probably, are the only ones found to occur—namely the palatal, lingual, and labial mutes.

Prof. Lepsius constructs the usual triangle or pyramid of vowels, in the same form as that in which we have here stated it, viz:

a
e̲ *o̲*
e *o*
i *u*

but, as we cannot but think, without any due explanation of why they should be thus arranged. Indeed, his treatment of the vowel system is more unsatisfactory and open to criticism than any other part of his work. In the first place, he quits here altogether the physiological basis upon which he professes himself to stand, and, instead of giving us any account of the mode of formation of *a*, *i*, *u*, their relations to one another, and the reasons of their prominence in the history of language, he suffers himself to be seduced into drawing out a fantastic analogy between the vowel sounds and the colors, which has not the slightest substantial ground, neither teaches nor illustrates anything, and can only stand in the way of a clear and objective view of the actual phonetic relations of the subject. "There are three primary vowels," he tells us, "as there are three primary colors," and "the other vowels are formed between these three, as all colors between red, yellow, and blue"! And so onward, through his whole discussion of the vowels, we have nothing in the way of description and illustration other than what is afforded by the drawing out of this fanciful parallel: in place of a physical definition of any vowel sound, we are referred to the combination of colors which it may be imagined to represent. We submit that this is not merely a leaving out of sight one's physiological basis, but a trampling it under foot and rejecting it for a foundation of cloud; that it is a backsliding into the old reprehensible method in phonetics, of describing and naming things from subjective comparison, instead of from actual analysis and determination of character; and that the whole color analogy is quite unworthy of a place in our author's phonetic manual. Again—and doubtless as a consequence, in the main, of thus leaving out of account the physical mode of production of the vowels—our author appears to misapprehend the relation in which the German *ü* (French *u*) and the German *ö* (French *eu*) stand to the rest of the vowel system. He speaks of *ü* as standing "between" *i* and *u*, and of *ö* as standing "between" *e* and *o*, in the same manner as *e* between *a* and *i*; and the reason why, between *a* and *i*, language has developed two vowels, *e* and *e̱* (*a* in *fat*), while between *i* and *u* it shows but one, is, in his apprehension, that "the distance between *a* and *i* is greater than that between *i* and *u*." But, in fact, the two cases are of entirely diverse character. From *a* to *i* is a line of direct progression, a process of gradual approximation of the organs, in which there are theoretically an infinite number of different points, or degrees of closure, each of them giving a different vowel sound—just as there are between the key-note and the fourth an infinite number of possible musical tones, distinguished from one another by minute differences of pitch; although the natural scale makes use of but two of them, the second and the third, as the spoken alphabet of but two of the vowels intermediate between *a* and *i*, viz. *e* and *e̱*. But between *i* and *u*, as being produced by approximation of the organs at two distinct points in the mouth, there is no line of continuous progression, except by going from either of them back to the neutral point *a*, and thence taking a new start in the direction of the other. It is plain, then, that *ü* cannot be a vowel intermediate between *i* and *u*, in the same sense as *e* between *i* and *a*; it is rather a vowel combined of *i* and *u*, or in the pronunciation of which the position of the lips is that in which *u* is uttered, and, at the same time, the position of the tongue is that in which *i* is uttered. It is quite possible to describe this sound, usually so difficult to be learned by those in whose mother-tongues it does not occur, and to make its acquirement a matter comparatively easy, by laying down this rule: fix the tongue to say *i* (as in *pique*, *machine*), and pronounce that letter; and then, without moving the tongue, fix the lips to say *u* (in *rule*): the combination gives the required sound. To define and teach *ö* is by no means so easy, because the positions assumed by the tongue and lips respectively in its utterance are less distinct and marked, and so are harder to maintain by conscious effort: there is also less persistent uniformity in its pronunciation than in that of *ü:* while the French *u* and German *ü* are absolutely identical in character, a slight difference is generally acknowledged between the French *eu* and German *ö;* both are, without doubt, combinations of a medial palatal with a medial labial approach of the organs, but the degrees of approximation are very slightly different in the two: indeed, French orthoepists also recognize differences in the quality of their *eu* in different classes of words. We can hardly trust ourselves to pronounce a decided opinion upon matters of so delicate distinction between sounds not native in our own mouth; but we do not think that the differences of quality referred to are greater than subsist between the short and the long *i* in German or English (in *kinn*, *ihn*, or *pin*, *pique*), or between the short *i* of the German and English (which is a little more open than the long *i*) on the one hand, and that of the French (which has precisely the same quality as the English, German, and French long *i*) on the other, or that they call for different characters to represent them. And that there is any like combination of the positions of e̱ and o̱ (*a* in *fat* and *a* in *all*), forming a third vowel of the same class—as is assumed by our author, in order to fill up his system—we do not at all believe; his o̤̱ may be omitted as superfluous.

Prof. Lepsius proposes to write these two combined vowels, vowels of double position, or palato-labial vowels, as we may call them, in a manner analogous to that adopted in German, but with the double point, or diæresis, written below instead of above the letter, in order to leave room above for marks of quantity, accent, nasalization, and the like. This consideration is well worthy of being taken into account; yet we would suggest that, as most fonts of type contain *ö* and *ü*, and not the reversed forms, it be allowed to employ either without incurring the blame of violating the system. In practice, both forms are about equally serviceable, as it is not usual in continuous text to mark accent and quantity; nor could any ambiguity arise from the license, as the two dots are not elsewhere employed as diacritical signs in the alphabet proposed.

In like manner as the separation of *ö* into two sounds (o̤ and o̤̱), and yet more into three (o̤̣, o̤̱, and o̤), seems to us superfluous, so does also that of *e* into *e* and ẹ, and of *o* into *o* and ọ.* Our author, indeed, is inconsistent with himself as regards them: now he gives both (p. 26 [24]);† now he gives only one, and at one time only the simple forms, at another (p. 29 [26]) only the dotted.

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* A single dot beneath the vowel is meant to indicate a closer utterance.

† We cite first, in all references to the Standard Alphabet, the page of the English version, adding in brackets the corresponding page of the German original.

In his list of the vowels with illustrative examples (pp. 47, 48 [42, 43]) he includes both, but virtually admits the uselessness of the distinction, by being forced to leave one of the two forms without an example, or else to illustrate it by setting up as discordant the pronunciation of the English *e* in *men* and the German in *wenn*, between which we defy the keenest living ear to detect a difference of quality. We are thus able to dispense with all those signs which have a twofold diacritical mark below—a great advantage, since they could not but be found very cumbersome in practical use.

The vowel usually known in English as "short *u*" (the *u* of *but*, *current*, and the like; the *o* of *son*) is one of the hardest matters with which the constructor of a phonetic alphabet is called upon to deal. Its distinctive character is the absence of character; it is the neutral, the indefinite, the uncharacterized vowel, a product of the intonation of the breath alone, with the lips just parted to give it exit. It differs from *a*, in that for the utterance of the latter the mouth is opened with the honest design and effort to give forth a sound, while for that of the other it is indolently left as nearly shut as may be: both are alike free from any consciously modifying and individualizing action of the mouth organs. The opinion referred to by our author (p. 26 [24]) as held by "some scholars," that the other vowel sounds issued forth and grew into individuality from this one, seems to us to lack even the semblance of a basis. We know of no historical evidence supporting it, nor can we regard it as called for by, or consistent with, sound theory. When an untaught race begin to learn to paint, they do not use neutral tints, but the brightest and most startling colors. The beginnings of speech were attended with hearty effort and labor; the most strongly characterized and broadly distinguished sounds composed its first alphabet; it no more began its vowel system with the neutral vowel than its consonant system with sibilants and spirants. The vowel in question comes in rather by the corruption of other vowels, by the process of slighting them, and robbing them of their distinctive qualities. It can hardly be said to appear at all in the best style of German pronunciation; in French it occurs only as the lightest and briefest possible succedaneum of an *e* which is to be made as nearly mute as may be, or as nasalized in the combination *un*; the English is the only modern European language, so far as is known to us, which elevates it to an entire equality with the other vowels, allows it in accented as well as unaccented syllables, and gives it both a short and a long value (as in *hut*, *hurt*). It is also found extensively in the languages of India, as the result of the dimming of an original short *a*, and it abounds in the idioms of the aborigines of this continent, the general pronunciation of whose vowels, except in accented syllables, is peculiarly dull and indistinct. The practical question is, what sign shall we choose to represent it? the *u* which to the English apprehension is its most natural sign, the *e* to which alone it belongs in French and German, or the *a* out of which it has generally grown in countries farther east? Our author decides for the second, and writes it as an *e* with a little circle beneath as diacritical point: thus, *e̥*. This will answer well enough; we have no such objections to urge to the sign as should lead us to reject it entirely; yet we confess that we should ourselves have rather chosen the *a* as a basis, for the reason that there is a nearer relationship between *a* and the sound in question than between the latter and *e*. *E* is a palatal vowel: *a* is neither palatal nor labial, but is, like the neutral vowel, uncharacterized; only in the one case the mouth organs have been by a conscious effort removed, that they may not affect the uttered stream of intonated breath, while in the other, though they contribute nothing by conscious action to the production of the sound, yet, by being left in the way of the breath's free passage, they dim and dull it, producing this grunting sound, the most ungraceful of the whole vowel system—or only less ungraceful than the nasalized form which it assumes in the French *un*.

There are some other points in the scheme of vowel-signs and examples given by our author (pp. 47, 48 [42, 43]), besides those we have already noticed above, which seem to us open to criticism. The English vowel sounds, the special difficulty of which Prof. Lepsius alludes to in another place (p. 25 [23], note), are not always well placed and properly paralleled. The designation of the diphthongs and nasal sounds is also in various instances defective in point of consistency with the rest of the alphabet. To represent, for example, the English *oi* in *join* by a simple *oi*, while the first constituent of the compound is not the sound to which the system assigns *o* for a sign, but that represented by *ō̱*, is an undesirable inaccuracy. So also the French nasal sound in *bien*, *vin*, cannot properly be written with *ẽ*, as our author proposes, since the vowel sound which receives the nasal quality is that to which *ĕ̱* has been before assigned as representative.

We come now to the consonants. And, having already expressed ourselves as not entirely satisfied with our author's general treatment of them—as a class altogether separate from the vowels, and requiring a diverse method of arrangement—we will here first proceed to set forth our own ideas as to how both classes may and should be presented in one harmonious and concordant system.

As has been remarked above, *i* and *u* are the two vowels of closest possible position on the side of the palate and of the lips respectively. In them we are on the very borders of the consonantal territory; so that even *i* and *u* themselves, when coming before an opener vowel, as *a*, in the same syllable, take on a character no longer purely vocal, and become the "semivowels" *y* and *w*. That the latter are not at all closer in position than their corresponding vowels, we are not prepared to maintain: indeed, it is certain that they are sometimes made so, else we could not utter the syllables *ye*, *woo:* but it is questionable whether they have this greater degree of closeness except when it becomes necessary to distinguish them from a following *ī* and *ū*; and, at any rate, the difference between them and *ī* and *ū* respectively is not greater than between long and short *i*, long and short *u*, as pronounced by English and Germans; it is so insignificant that some languages, as the Latin, have no more thought of distinguishing by a different character *y* from *ī*, and *w* from *ū*, than *ī* from *ĭ*, and *ū* from *ŭ*. It is practically more convenient, however, to have separate signs for the consonantal values of these two vowels, and the great majority of orthographers will agree with our author in adopting such. With *y* and *w* are to be classed, as semivowels, *r* and *l*. In these sounds we begin, at last, the lingual series. We have already noticed that the lingual approximation of the organs, or that of the tip of the tongue to the fore part of the roof of the mouth, gives rise to no vowels proper. The modifying action seems too far from the throat to act with effect upon the stream of intonated breath. It is to be observed that in the production of the labial series of vowels the approach of the lips is not solely the immediate, but in part also the mediate producing cause, by the action which it accompanies and facilitates at the base of the tongue. For it is possible, by a violent effort to change the position of the tongue at its root, to pronounce a pretty clear *a*, even with the lips in the position in which *u* is ordinarily uttered; and, on the other hand, one may bring forth, by a like effort, the whole series of labial vowels, with the lips and teeth held immovably in the position in which one naturally pronounces *i*. But if the lingual position produces no sounds which are solely or prevailingly vocal in their character, its semivowels have in many languages the value of vowels, and it is also much more fertile of consonants than either of the others. Thus, in the rank now under consideration, we have, instead of one semivowel only, two different ones; which, however, are very closely allied, most frequently pass into one another, and in etymology, as is well known to all students of historical philology, hardly count together for more than one letter. They are described by Prof. Lepsius (p. 30 [27]) as both "formed by a contact, which is vibrating in *r*, and partial in *l*." This is not altogether satisfactory: for, as any one who speaks English can perceive, vibration is not necessarily characteristic of *r;* that sound may be uttered as smoothly over the tip of the tongue as any other; and what a "partial contact" is, as distinct from a near approximation of the organs, such as is universally characteristic of fricative sounds, it is not easy to see. The real definition, if we are not mistaken, is this: *r* and *l* are both breaches of the close position in which a *t* or *d* is produced; in the *r*, the breach is made at the tip of the tongue; in the *l*, it takes place at the sides, the tip remaining in contact with the palate.* Both may be formed at many different positions along the roof of the mouth: wherever a *d* can be uttered, there it can be broken into an *r* and an *l*. In English, as in Sanskrit, the *r* is ordinarily uttered with the tip of the tongue reverted into the dome of the palate, and is not vibrated or trilled, as it hardly admits of being in that position: in languages which have developed a "cerebral" series, *r* is properly placed at the head of that rank; where there is none such, it may well enough be left with *l*, in the lingual series. There is also another *l*—not referred to, we believe, by Prof. Lepsius, but forming an important constituent of more than one modern alphabet—which possesses a markedly palatal character, and stands in intimate relations with *y*. It has the distinctive and indispensable characteristic of an *l*, that it is produced by an opening at the sides of the tongue; but the intervening closure is made by the middle surface, and not by the tip, of the tongue: it is the breach of such a *d* as is formed by pressing the flat of the tongue against the roof of the mouth, well within the dome of the palate.

From *y* and *w* respectively, a very slight additional degree of closure gives us the full stoppage of the breath represented by *k* and *p*. And if there is any reason why our author should have arranged the vowels in the triangular method adopted by him, there is precisely the same reason why he should have prolonged the sides of his triangle to their natural terminations in the mutes. If we may follow down the line of progression from *a* to *e̱*, from *e̱* to *e*, from *e* to *i*, why not keep on in the same direction, from *i* to *y*, and from *y* to *k?* and why not, in like manner, from *a* to *p*, instead of stopping short at *u?* If the triangle be thus completed, *t* will properly enough occupy the middle of its base, as belonging in the same rank with *k* and *p*, and as being produced by closure of the organs at a point between the labial and the palatal. But before we proceed to construct the triangle, it is necessary to take account of two matters which have not yet been considered. First, though the aperture of the mouth be closed by contact at the three points referred to, there is still a way for the exit of the breath, namely through the nostrils, and the permission of its escape in this way gives rise to a distinct class of sounds, called nasals. There may be, or must be, in any language, as many sounds of this class as there are mutes;

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* In his paper on the Arabic (p. 140), Prof. Lepsius explicitly speaks of the *l* as thus formed.

each letter of complete closure has its corresponding nasal: so to *p*, *t*, *k* correspond *m*, *n*, and the English *ng* (in *sing;* or *n* in *anger*, *ink*). Observation shows us, however, that hardly any language gives to the palatal nasal the same value, as an independent constituent of the alphabet, as to the other two: it is employed only in a subordinate capacity, either solely before a palatal mute, or also at the end of a syllable, where a palatal mute has in pronunciation been lost after it, as in English and German. Hence it has no sign allotted to it in the Latin alphabet, and one must be devised and applied to its designation. Our author chooses *n* with a dot above as diacritical point: thus, *ṅ*—which seems unobjectionable, if not found to be inconsistent with other signs to be adopted later. The second point to be noticed is that the close positions in which *k*, *t*, *p* are uttered give rise, not to those letters only, but also to another set, *g*, *d*, *b*. Prof. Lepsius distinguishes the two classes by calling the latter "soft," the former "strong" or "sharp"—terms which he prefers, apparently, to the more natural and usual correlative of "soft," viz. "hard." This whole nomenclature seems to us exceedingly objectionable, as founded on fanciful analogy rather than on physical analysis. The terms hard and soft, once so usual, have of late become in good degree banished from phonetical works, and their re-introduction by our author is a regrettable step in a backward direction. Much as we dislike the color analogy, already spoken of, we would almost as lief see *a*, *i*, *u*, *ü*, etc., habitually called in our author's pages the red, the yellow, the blue, and the green vowel, etc., respectively, as to find *p* and *b*, and *s* and *z*, entitled the strong and the soft mute or sibilant. The use of these terms by our author, however, depends in great part upon an actual defect in his physiological analysis of the sounds to which they are applied: he has no clear, penetrating, and ever-present appreciation of the difference between what he calls the strong and the soft letters. This defect is something rather characteristically German: it is really amazing how some of the most able physiologists and philologists of that nation have blundered over the simple and seemingly obvious distinction between an *s* and a *z*, an *f* and a *v*, a *p* and a *b*, etc. Thus, to cite but an instance or two, the really eminent physiologist Johannes Müller can see no difference between a *p* and a *b* except a difference in regard to the force of utterance; and the noted grammarian Becker can find nothing better to say of them than that the one, the soft, is naturally fitted to stand at the beginning of a syllable, and the other, the hard, at its end: that is to say, that *but* is a correct and normal compound of sounds, while *tub* is something topsy-turvy, an infraction of the order of nature, and ought not, we suppose, to be uttered—as, by most Germans, it cannot be. The more usual way of settling the difficulty is to assume what is implied in the names "hard" and "soft": that *s* differs from *z* in being pronounced with a greater effort of the organs; that it is a hard or strong utterance, while *z* is weak or soft: and this is utterly erroneous, for either can, without alteration of its distinctive character, be pronounced with any required degree of force—with the gentlest possible emission of breath, such as hardly yields an audible sound, or with the most violent expulsion of which the organs are capable—and in ordinary use they do not at all differ from one another in this respect. Our author should have allowed himself to be instructed as regards the point in question by the Hindu grammarians, to whom he finds just occasion to refer more than once as distinguished for their skill in phonetic analysis, and capable of becoming our guides to the understanding of the sounds of our own languages (p. 15 [14]): none of them, so far as we know, fails to define correctly the difference between "hard" and "soft" letters. He himself comes very near the true explanation once or twice, as where he notices (p. 27 [24]) that all the soft fricative consonants include in themselves an intonated sound, or vowel: such a sound is, indeed, included in them, as well as in the soft explosives, and it is precisely this that makes them soft, for "soft" differs from "hard" solely in being uttered with intonated breath, instead of unintonated; that is to say, with sound, instead of breath alone. It may seem a contradiction to speak of a mute letter—for instance, a *b*—as uttered with intonated breath; but the difficulty is only an apparent one. Intonated breath, as any one may readily convince himself by experiment, can be forced up into the mouth even when closed, until the cavity of the mouth is filled with the air so expelled. Thus, with the lips compressed, and no exit permitted through the nose, one may make a sound, in which, even without the closure broken, the ear will recognize a *b* quality, and which will last until the cheeks are fully distended, perhaps a second or two: time enough, though short, to utter a dozen *b*'s in. The syllable *pa* differs from *ba*, then, in this: in the former case, the intonation of the breath, the expulsion of sound, begins the instant that the labial contact is broken; in the latter case, it begins the instant before: *apa* differs from *aba* in that, in the one, the breath loses its sonant quality during the instant of closure represented by *p;* in the other, there is no cessation of intonation from beginning to end of the utterance. In the fricative or continuous letters, as *s*, *z*, or *f*, *v*, the case is yet more conspicuously clear; and no one, we are confident, can fail to convince himself by a very little trial that the only difference between any such pair of sounds lies in the difference of the material which is furnished from the lungs and throat to that position of the mouth organs which is characteristic of both. The only proper names, then, by which the two classes of sounds should be distinguished are intonated and unintonated, vocal and aspirate, sonant and surd, or the like, and such terms ought to be substituted throughout for our author's "soft" and "strong," to the rigorous exclusion of the latter.*

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* In his papers on the Chinese and Tibetan and on the Arabic, Prof. Lepsius recognizes the difference in respect to intonation between the two classes of sounds here in question, and more usually calls them by names which are measurably free from the objections we have urged against "soft" and "strong." But in the latter paper (pp. 106–10), after an elaborate discussion of the phonetic relations of the two classes, he comes anew to the conclusion, which we cannot but deem an erroneous one, that, while intonation does indeed constitute a usual distinction between strong and soft sounds, it is not, after all, the primary and fundamental one: this being, rather, the difference in strength of the emitted breath. Without entering into a detailed analysis of his argument, which would necessarily occupy several pages, we would point out that there are two circumstances by the misinterpretation of which he seems to be especially led astray. The first is, that there is actually a less emission of breath in the production of the intonated than in that of the unintonated letters. If there is no intonation, if the vocal cords remain relaxed, the whole aperture of the larynx is left open for the escape of breath, and the lungs may in a very brief moment be entirely emptied of their content: if there is intonation, the aperture is almost closed by the elevation and approximation of the membranous valves the vibration of whose edges produces the tone; a mere slit is left for the passage of the breath, and this cannot be completely expelled from the lungs until after a prolonged utterance of sound. Thus, other things being equal, a surd letter will cause a greater expenditure of breath than a sonant; but it is, we are sure, a direct reversal of the true relation of things to make the diminution of the column of breath the primary, and the intonation the secondary and subordinate circumstance. We understand Prof. Lepsius, by his scale of *maxima* and *minima*, to admit that more breath may be expended in the violent utterance of a sonant than in the gentle utterance of a surd; yet to hold that the strength of utterance is the main thing, because, through the whole scale of degrees of force, the surd sound would employ more breath than the sonant of corresponding strength. Is not this very much as if one were to say that the essential physical difference between male and female lies in the inferior strength of the latter; since, though a man of *minimum* power may be weaker than a woman of *maximum* power, yet a *maximum* man is stronger than a *maximum* woman, and a *minimum* man than a *minimum* woman? If we may increase and diminish the force of utterance of either a surd or a sonant letter, and to a marked degree, without alteration of their distinctive character, then it seems clear that force of utterance cannot be their distinguishing characteristic: while, on the other hand, if it be true, as we confidently maintain, that the element of intonation cannot possibly be introduced into an *f*, for instance, without immediately and necessarily converting it into a *v*, nor the element of intonation taken away from a *v* without at once making an *f* of it, we cannot hesitate to regard the presence or absence of intonation as determining absolutely the distinctive character of the sounds in question.

The other circumstance to which we regard Prof. Lepsius as giving a false value is that in whispering we are able, to a certain extent, to make audible the distinction between surd and sonant. In whispering, the place of tone is taken by a rustling of the breath through the larynx—we presume, between the edges of the vocal cords, which are approximated, but not sufficiently so, nor with tension enough, to produce actual sonant vibration, although approaching this in proportion to the effort which is made to attain loudness and distinctness. It may be compared to the first hoarse rush of steam through an imperfect steam whistle, approaching, and finally passing over into, clear sound. There is enough of resonance in it to make all the vowels and semivowels distinctly audible, and it can in some measure perform the same office for the sonant consonants: yet very imperfectly; it requires a labored effort at distinctness of utterance, and the close attention of an ear not too far removed, to distinguish a whispered *saza* and *fava* from *zasa* and *vafa*. We cannot see that the possibility of this partial substitution of an imperfect for a perfect intonation militates at all against the theory which regards intonation as the essential distinction of the sonant letter from the surd.

We would construct as follows the complete tableau of the principal sounds thus far treated of:

Vowels,				*a*				
			e		*o*			
		i				*u*		
Semivowels,	*y*			*r*, *l*			*w*	Sonant.
Nasals,	*ṅ*			*n*			*m*	
Mutes,	*g*			*d*			*b*	
	k			*t*			*p*	Surd.

The nasals create a little difficulty in the arrangement of the alphabet, inasmuch as they introduce an element which has no part in the formation of the other letters, and, while in position of the mouth organs they are close, like the mutes, they are nevertheless, in virtue of the freedom of the passage which they unclose, quite open letters, having many important analogies with the semivowels and vowels. Thus, both *n* and *m* are sometimes used as vowels, like *r* and *l*. For this reason we place them next the semivowels, between these and the mutes. Again—and this is perhaps the most marked common characteristic which unites them into one class—the vowels, semi-vowels, and nasals have all together but one corresponding surd, the letter *h*. This letter our author refers to a new class which he sets up, and calls the "faucal": he describes it as produced "behind the guttural point, immediately at the larynx" (p. 39 [34]). We cannot quite agree with this treatment of the *h*, which seems to imply that it has a characteristic position of its own, or is pronounced with the mouth organs fixed in a certain way, which we think is plainly not the case. Our European *h*, although in great part of guttural origin, has become a mere breathing, and is always uttered in the same position with the next following letter, which letter can be no other than a vowel, semivowel, or nasal. The *h* which precedes an *ī*, as in the word *he*, is an emission of unintonated breath through the same position of the organs which belongs to the *ī*, or through the close palatal position; before *ū*, as in *hoot*, it is uttered through the close labial position; the same is true of the *h* which precedes the semivowels *y* and *w*, as in the words *hue* (*hyū*) and *when* (*hwĕn*); and the Greek rough breathing before ϱ was doubtless of like character. That is to say, in the production of the vowels, semivowels, and nasals, the approximation of the organs is not so close that the utterance through them of unintonated breath can give sounds individually characterized, and capable of being employed as independent members of the alphabetic system: all their positions together add but a single surd to the alphabet, the simple breathing or aspiration *h*. In the rest of the system, on the other hand, each position of the mouth organs adds to the alphabet two sounds, produced by the emission, the one of intonated breath, the other of unintonated.

And this distinction seems to us to draw through the system a more marked line of separation, to divide it into two classes more decidedly different from one another, than that between vowels and consonants. If we were to separate the alphabet into two great classes, it would be rather here than there.

In proceeding to fill in the other classes of sounds which help to make up the complete alphabetic system, we may commence with the sibilants. The sibilant most universally found to occur, and the oldest and only primitive one in our family of languages, is the lingual *s*. This is, like *r*, a breach, made at the tip of the tongue, of the position of closure in which *t* is pronounced: the breach is a less open one, and the material expelled through it is the unintonated breath. Hence the so frequent historical transition of *s* into *r;* and hence even, in the Sanskrit, the prevailing phonetic relation of *s* and *r* as corresponding surd and sonant. The *s*, however, has its precise sonant correlative in *z*, which is pronounced with exactly the same position and degree of closure, and differs only in the material expelled, which is intonated. The other common sibilant is that which in our language is written, though a simple sound, with the compound sign *sh*. Prof. Lepsius does not expressly define it, yet we gather from what he says of it on page 45 [40], and from his classing it as "dental," that he would describe it in a manner with which we could not agree. The most instructive and decisive experiment which one can try in his own mouth upon the sibilants, is to apply the tip of the tongue to the roof of the mouth in front, just behind the upper teeth, uttering an *s* there, and then to pass the tip slowly backward along the palate, continuing the sibilant sound. It will be perceived that, for a brief space, the resulting sound is clearly such as we should call an *s*, but that, as soon as the tongue passes the ridge at which the dome of the palate rather abruptly rises, the sibilant assumes the character of an *sh*, and maintains it, with unimportant change of quality, as far back as the tongue can reach in the mouth. The ridge referred to forms the dividing line between the region where *s* and that where *sh* is uttered, and this difference of region constitutes the essential distinction between the two sounds. The tip of the tongue is not necessary to the formation of either: its upper flat surface, applied in front of the ridge, is used by some persons in their ordinary utterance of *s;* while the usual *sh* is always produced by that part of the organ, applied within the dome: the *sh* sound, slightly different in quality from this, which is brought forth by turning the tip of the tongue back into the dome of the palate, is the Sanskrit "cerebral" *sh*—a distinct cerebral, like all the other letters of its class, and not identical with our *sh*, although so nearly akin with it. The position of the *sh* and its corresponding sonant *zh* (*z* in *azure:* the French *j*) is thus between the palatal and the lingual letters, but very decidedly more akin with the former. The term "dental" is an incorrect one as applied to it, since not only are the teeth not at all concerned in its production, but it is even originated at a point quite distant from them. We have carefully avoided the use of the term dental throughout, because we think it a misnomer, even as allotted to *s*, *z*, *d*, and *t*. By long and careful trial, we have convinced ourselves that the close approach and contact which give origin to these sounds are not upon the teeth themselves, but immediately at their base and behind them. Even though the tip of the tongue touch the teeth in the utterance of *t* and *d*, the determining contact is upon the gum: the only sound producible between the tongue and the teeth themselves is that of *th;* the teeth are not tight enough to make a mute closure.

In his selection of a sign for this pair of sibilants, our author has not been quite so happy as usual. After rejecting the *s* with a *spiritus asper* above it (thus: *s̔*), because the latter has a value of its own, which would not belong to it as thus used, he adopts as diacritical mark the usual sign of a short vowel, which is liable to precisely the same objection, and writes *s̆*, *z̆*. We should have chosen *s'*, for just the analogy on account of which our author rejects it—because we regard the sound as properly palatal, and think it identical with the Sanskrit palatal sibilant. A dotted *s*, or *ṡ*, would also have pleased us better than the sign adopted, as being more easily written, and not suggesting a value which it does not possess. Still, the point is one of inferior consequence, and we should not think of seriously quarreling with the method of representation proposed by Prof. Lepsius.*

The sounds of the English *ch* in *church*, and *j* and *g* in *judge*, are represented in our author's system by *ts̆* and *dz̆*, as being evidently compound sounds, containing as their final elements the surd and sonant sibilants just treated. These signs, however, include a slight inaccuracy, which we presume did not escape the notice of Prof. Lepsius, but was neglected by him as of insignificant importance. The *t* and *d*, namely, which form the first constituents of the compounds, are not the ordinary *t* and *d*, as uttered close behind the teeth, and with the tip of the tongue: they are brought forth within the dome of the palate, and by the flat of the tongue—that is to say, by a contact of the same organs, and at the same point, where a near approximation gives the *sh* sound. We properly require, then, some diacritical point to distinguish them from the common linguals, from which they differ quite as much, and in very nearly the same way, as the

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* In his later papers, we observe that he substitutes an angular mark, like a circumflex inverted, for the circular one: thus, *š*—following, apparently, the Slavonian usage to which he refers on page 35 [31].

Semitic sounds written by our author with a line beneath (*ṯ* and *ḏ*)—perhaps still more nearly as the Sanskrit palatals (according to his understanding of their character), which he represents by *k′*, *g′*. The inaccuracy, it is true, is in great measure excused by the practical inconvenience of adding a second diacritical mark to the compounds, and by the awkwardness of introducing two new characters into alphabets which know the sounds represented by them only in these combinations ; yet we should be inclined to draw from it an argument in favor of a yet simpler mode of representation. Considering the peculiar intimacy with which the elements of the sounds in question are combined—such that some orthoepists still persist in regarding them as simple, and that more than one language, elsewhere very careful to make its vowels long before double consonants, does not allow them to constitute position—we should not be unwilling to turn to account in their representation the otherwise useless *c* and *j* of the Latin alphabet. To write *c* for the sound *ch*, and to retain *j* with its English value would, indeed, involve the inconsistency of writing compound sounds with simple signs ; but this inconsistency may be set off against the inaccuracy of writing *t͡š*, *d͡ž* ; and if we are dealing with a matter so knotty as to compel us at any rate to a violation of our system, is it not better to err on the side of practical convenience?*

The labial series has no sibilants; for its pair of fricatives, surd and sonant, expressed in our author's system by *f* and *v*, with their English values, so lack the hissing quality which distinguishes the lingual, palatal, and cerebral sibilants, that it seems preferable to put them into another class ; which, for lack of a better name at hand, we will call the "spirants." Of these two, the *f* is more universally found, and of earlier development—which is apt to be the case, as between surd and sonant letters of the same organic position. In their ordinary pronunciation, the upper teeth are placed directly upon the lower lip, and the breath, unintonated or intonated, forced out between them. They would be most accurately described, then, as dento-labials. The German utterance of these sounds, however (and the same thing is claimed by some for the Latin *f*), brings the teeth much less distinctly into action: the German *f* and *v* (*w*) are almost purely lip sounds, crowded in upon the labial series between *w* and *p*, *b*.

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* The later papers of our author, already more than once referred to, show that he appreciates the force of this argument, and that the second edition of his Standard Alphabet will permit the use of *c* and *j* to represent the compound sounds here in question—yet with the addition to them of the same diacritical mark which he finally adopts for the *sh* and *zh* sounds: thus, *č*, *ǰ*. These signs are quite an improvement, in our view, on the *tš* and *dž* which they replace, yet we hardly appreciate the necessity of writing with diacritical points characters not elsewhere employed in the alphabet.

The spirants of the lingual series are the two sounds, surd and sonant, of the English *th*, as instanced in the two words *thin* and *this*. They are properly dento-linguals, being, unlike the other letters commonly called "dental," actually produced between the tongue and the upper teeth. What part of either shall be used is a matter of indifference: the same sound is originated, whether the tip of the tongue be set against the inner surface of the teeth (only not so as to form a contact upon the gums), or whether its tip or any part of its upper surface be applied under the points of the teeth. For foreigners, who are wont to find great difficulty in catching and imitating this sound, it is a method infallibly attended with success to seize the end of the tongue between the teeth, and hold it firmly there, while the breath is forced out over it.

Before examining the characters adopted by Prof. Lepsius for the lingual spirants, it will be well to consider the rules which, at the outset of his treatment of the consonants (pp. 31–2 [28]), he lays down as necessary to be followed in the work of fitting signs and sounds to each other. The first two of these rules—that every simple sound is to be represented by a simple sign, and that different sounds are not to be expressed by one and the same sign—are of obvious propriety, and their generally binding character will, we are sure, be universally assented to—yet even to the first of these we have been ready above to admit a single exception (or rather, to replace by it an exception admitted by our author himself to the second), in a peculiar case, and in order to gain what seemed to us an important practical advantage. The third rule is to the effect that those European characters which have a different value in the principal European alphabets are not to be admitted into a general alphabet. This shuts out from all employment such letters as *c*, *j*, *x*. To such a rule we are very loth to yield assent. With so scanty an alphabet as the Latin for material to make our system of characters of, it is very hard to have any part of it ruled out of use in advance, unless for more cogent reasons than can be urged in favor of this rule. The multiplication of diacritical points, the introduction among the familiar letters of our alphabet of others of a discordant form and style, like the Greek, are both very inconvenient and very distasteful, and if they can possibly be avoided, wholly or partly, by a judicious use of Roman letters which would otherwise be left idle, practical good sense would seem to teach us so to avoid them. The value of the signs composing the general alphabet must, of course, be learned by every person who is to use it: not a single language possesses all its characters in the signification it attributes to them; it is but a small matter to add one or two more to the list of those which each person must teach himself to apply in a different way from that to which he has been accustomed, or to adopt one or two convenient signs which in their assigned value must be learned by a majority instead of a minority, or a larger instead of a smaller majority, of those who use the alphabet. In fact, Prof. Lepsius himself furnishes a sufficient argument against his own rule, by palpably violating it in more than one instance: we will not insist upon the circumstance that he presumes to write the vowels and diphthongs by characters used according to their Italian values, while the English language, and in a less degree the French, gives them in many cases a quite different signification: but he also adopts *w* for the labial semivowel, in spite of the more usual value of the sonant spirant (*v*), which it has in other languages than English; he takes *y* for the palatal semivowel, although it is vowel, vowel and semivowel combined, and diphthong, one or all, in the principal languages of Europe: he represents the deeper palatal of the Semitic languages by *q*, which has not that value in a single European language; nor is his use of *v* and *z* free from similar objections. In every one of these cases, we heartily approve of the choice which he has made; but we do not approve of his cutting himself and us off from other such convenient adaptations, by the peremptory action of a rule which he observes so imperfectly. The fourth rule runs as follows: Explosive letters are not to be used to express fricative sounds, and *vice versa.* That is to say, for instance, *c*, of which the original sound was that of *k*, an explosive, or full mute, must not be used as a base upon which to form a character to represent the fricative, or continuable, sound of the German *ch*; *t* must not be altered to express the *th* sound, and so on. It is difficult to see why this should be made a peremptory rule, the binding force of which is not to be set aside by any opposing considerations. On the contrary, since the spirants, for example, historically develop themselves in numerous instances from the mutes, there would seem to be a peculiar propriety in developing their representative signs also from those of the mutes—if practical considerations be found to favor rather than oppose such a process. Our author's last two rules, we think, might better have been stated as important leading principles, not to be set aside without good and sufficient reasons.

But to return to the lingual spirants.—For the surd *th* sound, as heard in *thin, throw, path*, Prof. Lepsius adopts the Greek ϑ as representative: not without reluctance, for he feels the great undesirableness of introducing foreign characters into the Latin alphabet, and also allows that the primitive sound of ϑ was not fricative, like our *th*, but an aspirated *t*, or a *t* with an *h* closely following it. He is restrained, however, by his fourth rule from accepting any diacritically distinguished form of our explosives *t* and *d* to indicate the fricative spirants. We, on the other hand, do not see why, if the rule is a good one, it ought not to hold good in dealing with the Greek as well as with the Latin alphabet, and we should have decidedly preferred to see our author devise some modification of *t* and *d*, of a different kind from those assumed to represent the "cerebral" and "palatal" *t* and *d*—for instance, a *t* and *d* with a stroke drawn through them—to stand for the sounds in question. But there are objections yet more powerful to his manner of dealing with the sonant sound, the *th* of *this*, *though*, *with*. Recurring to his erroneous explanation of the difference between surd and sonant letters, and regarding the sonant as a weaker or softer utterance of the surd, he proposes to mark the former with the same Greek letter ϑ, only writing a *spiritus lenis* above it to indicate its gentler pronunciation. Here, for the first time, we must positively decline to accept his proposal. It is hard enough to have to borrow a Greek letter for the surd sound; but to take the same sign for the sonant also, while everywhere hitherto surd and sonant have had different characters, and then to mark their difference by a sign which is founded upon and implies a false theory—this is more than we can possibly consent to do. Far better were it to follow the course for which our author himself expresses a preference, but, from an underestimate of the difficulties attending the other course, does not venture to adopt: namely, to take the Greek δ for the sonant character. If we must accept ϑ, let us by all means have δ also, in its Modern Greek value: that is even a less violation of the proprieties of the Ancient Greek than to set the smooth breathing over a consonant, and with a value in no way belonging to it.*

The two sounds of the German *ch*—the one following *a*, and the labial vowels *o*, *u*, the other following the vowels of palatal position, *e*, *i*, *ü*, *ö*, and those compounds of which the final element is palatal, as *ei*, *eu*—are allotted by Prof. Lepsius to the guttural and palatal classes respectively. The distinction between the two in respect to mode of formation is sufficiently clear: each is a rough *h*, as we may call it, rasped through the organs with the least possible change from the position of the preceding vowel. If the vowel is a palatal one, uttered between the upper surface of the tongue and the roof of the mouth, the succeeding *ch* is of the same character; it is produced by an expulsion of unintonated breath through the same position made a little more close: or it may even be by a more violent expulsion through the unchanged position, a throwing out of more breath than can pass the organs without audible friction. The *ch* after *a*, *o*, *u* is brought forth farther back, at the deepest point in the throat, as it seems to us, where the organs can be so approximated as to yield a fricative sound, or at the point where the familiar and ungraceful operation of clearing the throat, or hawking, is performed. The former of the two, we think, approaches decidedly more nearly than the other to the point at which *k* and *g* are produced, and it is to be reckoned as of the same class with them. Prof. Lepsius calls *k* and *g* "gutturals," according to a very generally received nomenclature, and he ranks with them the deeper *ch* sound. We have all along avoided the use of the term guttural, as applied to the series in which the two mutes referred to belong, because it seems to us to suggest and imply a point farther back in the mouth than that at which they are actually produced. We entirely agree with our author (p. 40 [36]) in locating the place of utterance of *k* upon the soft palate, close upon where it joins the hard palate: their junction seems to be the line of division between lingual and palatal mutes, and behind it, even with the tip of the tongue, one produces a sound which is rather a *k* than a *t*. But the anterior part of the soft palate is hardly entitled to be called "guttural", or regarded as generating "guttural" letters: that term should rather be reserved for the deeper place of origin of the other *ch;* at or very near which is also produced, if our author's description be correct, the Semitic *koph* (Arabic ق, Hebrew ק), very properly written by him with *q*, its graphic, though not its phonetic, equivalent in the European alphabet.

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* We note that Prof. Lepsius has himself later definitively adopted δ and γ as signs for the dental and palatal sonant spirants.

To represent the *ch* sounds, our author proposes to make use of the Greek letter *χ*, writing the deeper or guttural sound with the simple character, *χ*, and the higher or palatal with the same character accented, or *χ́*. Precisely the same objections lie against this expedient as against the adoption of *ϑ*, already treated of; and for our own part, at least, we should have preferred to take another course. There is a Latin letter still left unemployed in our author's proposed alphabet, which, although its usual signification is quite different from the sound now sought to be represented, has that signification in at least one of the principal languages of Europe, the Spanish; and which, moreover, is the graphic correspondent in Latin of the Greek *χ*: we mean the letter *x*. Prof. Lepsius has considered the question of applying this letter to signify the *ch* sounds, and he rejects it, pronouncing it (p. 33 [30]) "altogether improper" for such a use. It is true that there are considerations of weight against it, of which we are by no means sure that they will not with many or with most judges have a preponderating influence, and cause the rejection of our proposal: but, in our own apprehension, they are all overborne by the signal advantage of taking a proper Latin sign, and turning to account all the characters of the Latin alphabet. The two points of connection between the sound and the sign which are furnished by the Spanish value of the latter, and by its graphic relation to *χ*, we are ready to accept as sufficient, scanty though they are. It were, in fact, a great pity to come so near to adopting *x*, and yet not quite take it. If our author's proposal is followed, we shall, whenever his character is to be written as a capital, use the Latin *X:* why not accept the other form also—calling it, if we choose, latinizing our *χ*, in order to adapt it to being written and printed with the other Latin letters?

The sonant corresponding to the surd *ch* sound is comparatively rare, and, if we are not mistaken, chiefly restricted to the deeper or guttural pronunciation: the palatal would pass too readily into *y* to be easily kept distinct from that semivowel. If the surd is to be written with *χ*, we should unhesitatingly take *γ* for the sonant, as is half proposed by our author; the *χ̇* which he finally decides to adopt is to be rejected, like *θ'*, and for the same reason.* If *x* should be accepted as the sign of the surd, it would be necessary, probably, to devise some modification of *g* for the sonant.

We have, then, the following, as a more complete scheme of a developed alphabet than was the skeleton formerly given: it contains the consonantal sounds most widely met with, including all those found in the English spoken alphabet:

Sonant			*a*		Vowels.
		e̱	*e̥*	*o̱*	
		e	*ö*	*o*	
		i	*ü*	*u*	
		y	*r, l*	*w*	Semivowels.
		ṅ	*n*	*m*	Nasals.
Surd	*h*				Aspiration.
Sonant		*ž*	*z*		Sibilants.
Surd		*š*	*s*		
Sonant		*γ*	*δ*	*v*	Spirants.
Surd		*χ*	*ϑ*	*f*	
Sonant		*g*	*d*	*b*	Mutes.
Surd		*k*	*t*	*p*	
Sonant		*j*			Compound.
Surd		*c*			
		Palatal Series.	Lingual Series.	Labial Series.	

Some things in this scheme require explanation, since it is not in all points so theoretically exact as the simpler one before presented. The vowels of double position, *ü* and *ö*, are placed where they stand for the sake of convenience, and not as belonging in any manner to the lingual series: this is indicated by the line drawn below them, from which the lingual series is to be regarded as commencing. For the same reason, the neutral vowel is given a position under the *a*, with which, as explained above, it has the nearest relation. The labial spirants might suitably enough be set somewhat to the left, and the lingual spirants somewhat to the right, of the places allotted to them respectively, since each pair brings in a new organ, the teeth, intermediate in position between the lips and tongue. For a like reason, the palatal sibilants are entitled to a position farther to the right: they might, in a yet more fully expanded scheme, be set in an independent column. That the labial and lingual spirants are letters of closer position than the sibilants, and therefore to be placed between these and the mutes, is very clear. In their production, the teeth are actually in contact with the lip and with the tongue respectively, and it is only because the teeth are too open among themselves to be capable of making a close position that the resulting sounds are fricative, and not explosive. This is not the case with the *ch* sounds, which we have put in the same rank; these have, in many respects, closer analogies with the sibilants than with the spirants, and would be quite as properly ranked with the former; yet, as they lack the full measure of sibilation, are certainly somewhat closer in position than their nearest relatives among the sibilants, the *sh* sounds, and have historical analogies with the spirants—coming, in great part, from *kh*, as ϑ from *th*, and *f* from *ph*—we have ventured to give them the place they occupy in the scheme.

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* See the preceding note.

The alphabet, as thus drawn out, by no means includes all the sounds which our author treats, and for which he provides representatives. Some languages present whole series of consonantal sounds differing from those we have thus far considered. In most cases, however, they admit of being arranged without difficulty within the same general alphabetic frame-work. Thus, the series representing the Arabic ط, ض, ص, ظ would come in just at the left of the common lingual series, being uttered, according to our author's description of them,* by applying the flat of the tongue, instead of its tip, to the same part of the palate where the tip produces the lingual letters, and being also, by general acknowledgment, uttered with greater effort, or stress of enunciation: they are very suitably represented in our author's system by the ordinary lingual letters, *t*, *d*, *s*, *z*, with an underscored line: thus, *t̲*, *d̲*, *s̲*, *z̲*. The Sanskrit so-called "cerebrals" would come next in order to the left; they have been already referred to, as uttered by turning back the tip of the tongue within the dome of the palate: Prof. Lepsius represents them in the usual manner, by lingual letters dotted beneath: thus, *ṭ, ḍ, ṣ, ṇ*. To the left of these, again, would have to be ranged the letters of the Sanskrit series usually called the "palatal," if our author's view of them, as simple sounds, be accepted as the true one. They are now pronounced like the English *ch* and *j*, and are more usually regarded as having had that signification from the beginning. It is not the proper place here to enter into a discussion of this difficult point: we will only say that the considerations adduced by our author in opposition to the common view, though very weighty, do not appear to us entirely convincing; and that we cannot regard the mutes of the series in question as differing from the English *ch* and *j* in such a manner and degree as to require other representatives than the signs already provided for those sounds. As for the sibilant of the class, we have already expressed our belief in its virtual identity with our English *sh.* Prof. Lepsius adopts the acute accent as sign of the peculiar palatal quality inherent in these letters, and writes the mutes, sibilant, and nasal as follows: *ḱ, ǵ, χ́, ń.* To the two last, as representing the palatal *ch* sound of the German, and the English *n* in *inch*, *hinge* (if the latter is worth expressing by a peculiar character at all), we have no objection—except that, as already explained, we would substitute *x′* for *χ́*—the other two we do not think well chosen, even allowing the correctness of our author's explanation of their quality: for sounds produced by pressing the broad middle of the tongue against the middle of the hard palate (p. 42 [38]) would not have anything of that quality which we represent by *k, g*, but would be distinctly a kind of *t, d:* no letter produced farther forward than the soft palate can be entitled to use *k* or *g* as its representative. The difference between our alleged "palatal" pronunciation of *k* before *e, i*, and our "guttural" before *a, o, u*, is exceedingly slight, and by no means such as would be made in any alphabet the foundation of a distinction of classes and characters: the only way to establish a valid distinction between a palatal and a guttural *k* and *g* in the Sanskrit system would be to regard the latter class as uttered at the deep guttural position of our author's *q* (Semitic *koph*), and the former as corresponding to our customary *k, g*.

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* See his special paper on the Arabic for a more penetrating investigation of these sounds, leading to somewhat different views respecting their character.

Finally, Prof. Lepsius gives us a class of "faucal" sounds, which has not, so far as we know, been recognized by any other author as a distinct and connected series. As constructed by him, it has a very regular and normal look, comprising a pair of fricatives and a pair of explosives, each pair being composed, as elsewhere, of a "soft" and a "strong" sound; insomuch that the series seems quite analogous to the lingual *s, z, t, d*, or to the labial *f, v, p, b*. But the analogy turns out, on closer examination, to be only apparent, and there are such weak points in the construction of the class as forbid us to accept it and place it parallel with those already received into the general alphabetic scheme. The first member of the series is the common aspiration *h*. Of this we have already sufficiently spoken, showing why we cannot regard it as "faucal": it is faucal in no other sense than as all voice, intonated or unintonated, must of course come through the fauces; and so, if there is no modifying action on the part of the mouth organs, the sound produced might, in a negative way, be styled a throat-sound, or a faucal, or a laryngal. But the *h* is plainly no member of a faucal series in the sense in which the other sounds we have been considering are members of a palatal series, a lingual series, and so on—namely, as having received a distinctive character by the action of the organ from which it derives its name; it is simple unintonated material, breath uncharacterized, or insufficiently characterized. The next member of the series is the Greek smooth breathing. This is regarded by Prof. Lepsius as a consonant, which necessarily and invariably precedes and ushers in a vowel not immediately preceded by any other consonant; he defines it as consisting in a slight explosion produced by the opening of the throat for the effort of utterance. Now we are quite unable to convince ourselves that there is any such thing as this alleged smooth breathing, having a positive and necessary existence. It is, indeed, possible to shut the throat and open it again before a vowel with an audible click (and yet the click will hardly be audible unless the following vowel is whispered only, instead of being intonated, or unless between it and the click a little emission of unintonated breath be suffered to intervene); but it is equally possible to substitute for the click a very slight open breathing, an infinitesimal *h;* and not less so, again, to commence the vowel without any prefix whatever which the nicest ear can remark. Why should it be necessary to close the throat as a preliminary to articulate speech? cannot one pass in the very midst of a breath from simple breathing to intonation and articulation? and are the vocal cords so sluggishly obedient to the will, that their approach to the vibratory position and the expulsion of the breath in the effort of speaking may not be made truly simultaneous? We can credit either of these things only when our own mouth bears witness to our own ears of their truth; and this we have been thus far unable to make it do. Our author assumes that this consonant comes in wherever we suppose ourselves to be pronouncing two vowels in succession, but uncombined, as in "the English *go 'over.*" This is the same thing as to say that it is identical with the hiatus: but, if we can trust our own organs, this is a case where the closing and reopening of the throat would not take place, but, instead of it, merely an instant of silence, an actual hiatus of sound. We can hardly believe that the use of the *spiritus lenis* by the Greeks was owing to their having noticed, and desiring to represent, the sound which our author defines: in our view, it was employed rather by way of antithesis to the *spiritus asper:* just as we, sometimes, for more marked distinction from a negative quantity, write a positive quantity with a *plus* sign, setting +1, instead of simply 1, over against −1. The use of the Semitic *aleph* is sufficiently explained by the syllabic character of the alphabet, and does not necessarily imply any recognition of the smooth breathing as a member of the spoken system of sounds. Our author even sets down the Sanscrit अ as representing this breathing; but we do not understand upon what ground; for the sign stands distinctly for *a*, and for nothing else; and we are not aware that the Hindu grammarians themselves—acute and hair-splitting as they were in catching and noting the finest shades of sound, and much as they would have been delighted with, and have made the most of, just such a nicety as this—ever took any notice of a smooth breathing. It has not, to our apprehension, any claim to be recognized as a distinct element in the spoken system, and as requiring a sign for its representation.

Of that most difficult and puzzling sound, the Semitic *ain* (Ar. ع, Heb. ע), which is the third in our author's faucal class, we shall not venture to speak, as we must confess ourselves unable either to utter or to describe it. So much as this we seem to see, that the definition given by Prof. Lepsius is not entirely satisfactory. He makes it a "hard" sound, corresponding to the *spiritus lenis* as "soft." According to the general meaning of the terms hard and soft, as used by our author, this would signify that the *spiritus lenis* was sonant, and this its corresponding surd—which is, of course, impossible. If, on the other hand, it mean that the *ain* is produced by an actually more violent and audible unclosing of the throat before a vowel, we do not see how this is to be brought into accordance with the descriptions of it given by the grammars.

The Semitic strong *h* (Ar. ح, Heb. ח), our author's fourth faucal, has more claim to the title, probably, than any of the others, as an *h* which, instead of being left in the condition of uncharacterized breath, is, by some degree of approach at the deep guttural point, made slightly fricative, although not to the degree of the *χ*-sound, with which it is most nearly allied in character.*

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* See the article of Prof. Lepsius on the Arabic, p. 127 etc., for a reexamination and more careful description, of the "faucal" sounds.

We have thus gone over nearly the whole of our author's system, turning our chief attention, as was natural, to those points in which we could not agree with him, and making our criticisms upon them with entire freedom, while at the same time cherishing the highest respect for the work as a whole, and deeming it in many important regards superior to any other of the kind with which we are acquainted. In no other, to our seeming, are learning and practical good sense—the want of either of which is equally fatal to the success of such a work as is here undertaken—united in the same degree. With Prof. Lepsius's view of the general method in which the standard alphabet is to be constructed we are fully agreed; it is to be by the employment of the Latin alphabet to the farthest possible extent, and by the application of diacritical signs to the most suitable bases to fill up its deficiencies; rather than, as some have proposed, by the introduction of italics and capitals among the ordinary "roman" letters; or, according to the method of others, by turning letters topsy-turvy or wrong side before, by cutting away parts of characters, manufacturing arbitrary signs for sounds, and the like, forming compounds even more offensive to the eye than that artificial and incongruous *pot-pourri* of characters, the Russian alphabet. As has been seen above, we only wish that he had gone yet farther in the carrying out of this principle, doing without Greek characters altogether, and pressing into active service the three anomalous letters *c*, *j*, and *x*, as well as *q*. We heartily approve, also, of Prof. Lepsius's moderation in the distinction of sounds and the setting up of signs for them. To compose a complete universal alphabet, offering a sign for every shade of sound which human lips utter, however slightly differentiated, and requiring the use of that sign for that sound in all cases without exception, forms no part of his plan. Even if the execution of such a work be allowed to be possible, the resulting alphabet would be lifted far out of the domain of practical availability, in which our author desires it to rest. The varieties of possible pronunciation are well-nigh infinite, and the signs of a general alphabet must be allowed to cover and designate each a certain territory, as we may call it, of articulation, rather than a single point. It might be laid down as a general rule, that no two modes of pronunciation of a sound require to be distinguished by separate signs, unless they may and do coexist as independent sounds in the same spoken system. Thus, for instance, notwithstanding the difference in mode of pronunciation between the English and the German *f* and *v* (*w*), they are not to be regarded as demanding different signs: it must belong to the description of the methods of utterance of each language to point out their distinction. And yet farther, if a language were found to lack the more usual and normal pronunciation of a letter or a series of letters, and to substitute for it one of those modes of utterance which are indicated in the general alphabet by a diacritical mark, it would yet be superfluous to use, in writing that language, the diacritical point. If, for example—for no actual instance now occurs to us—the Arabic had no *t*, *d*, *s*, *z* but ط, ض, ص, ظ, which are written in our author's system with the underscored line, it would be proper, in transcribing the language, to use for them the simple lingual letters, it being left for description to explain their peculiarity of utterance. Careful and detailed description must necessarily accompany any and every application of an alphabet to a new language, and even when that has done its utmost, there will remain much which only oral instruction can impart, much that cannot be learned but by long practice and familiar usage, and probably even much that can never be perfectly acquired by one to whom the language is not native.

It is evident that adherence to a uniform standard of orthography is not in all cases to the same degree requisite and necessary. The adoption of one alphabetic system throughout is most to be insisted upon where independent laborers are reducing to writing, for practical use, the same or nearly kindred idioms. Here, a diversity of characters employed leads to a confusion of which the consequences may be long and keenly felt. Where languages are quite independent of one another, minor inconsistencies in the mode of writing them are of comparatively small account, since, in the acquisition of a new language, whether for practical or scientific purposes, its phonetic and orthographic systems must receive an amount of attention and study in which such little incongruities will almost entirely disappear. In isolated articles, essays, and treatises, in the making up of empirical alphabets for collectors of vocabularies, and the like, greater freedom may very properly be allowed: convenience of writing and printing, conformity with the previous usages of those for whose information or practical employment the alphabet is devised, leading to its greater intelligibility, or accuracy of application—these and other like considerations rise to an importance which authorizes and justifies deviation from strict theory. It may be well here to review and classify the Standard Alphabet in a summary manner, with reference to the greater or less authority and availability of its signs.

First, as regards the vowels. Here the most important and imperative rule is, that the five vowel sounds of almost universal occurrence, illustrated by the English words *far*, *prey*, *pique*, *note*, *rule*, should be written by the characters *a*, *e*, *i*, *o*, *u*, which originally and properly belong to them, and by no other; in other words, that the vowels should receive the "Italian" sound. No alphabet, under any circumstances whatever, is to be tolerated, if it neglect this rule. The same rule implies and requires that the diphthongal sound which we call "long *i*" (as in *pine, aisle, buy*) should be represented by the digraph *ai*, and the diphthong *ou* (as in *house, how*) by *au*. It is much less easy to lay down peremptory rules for the other five vowel sounds which most frequently call for representation. But the vowels of double position, the German *ü* (French *u*) and *ö* (French *eu*), can hardly be better written than with the two dots, either above or below, and we should think that a virtual unanimity as regards them might be pretty easily established. The neutral vowel (in English *but, burn*) will occasion much greater difficulty, and probably no sign can be suggested for it which will not encounter strong opposition in many quarters. Our author's proposal will seem a strange one to most of those who come to it from English usages, and we have ourselves not been able to assent to it without some misgivings: but we have had nothing preferable to suggest, unless to transfer the diacritical point from *e* to *a*, writing *ḁ*. The vowels intermediate between *a* and *e* and *a* and *o* respectively, represented in the English words *cat* and *call*, are also hard subjects for unanimity of treatment: and the more so, as they vary more in quality, in different languages, than the others. As said above, we should be very willing to see our author's signs generally adopted as their representatives. As the sign of long quantity, our author, with entire reason, prefers the horizontal line above the vowel (thus, *ā*): the circumflex (*â*) is also available for this purpose: but the use of the acute accent (*á*) to denote the length of a vowel, which has most unfortunately become very prevalent among the English, is contrary to all analogy, and unsupported by any consideration of fitness, convenience, or neatness of appearance, and it ought to be summarily suppressed. The only customary and available sign of short quantity is the concave line above the vowel (*ă*). Whether it be necessary or desirable to distinguish long and short quantity in writing must be determined for each language by itself: it can hardly ever be advisable, we should think, to employ the diacritical marks of both classes in the same system. To indicate the nasalization of a vowel, by the expulsion through the nose of part of the breath by which it is uttered, Prof. Lepsius employs the Greek circumflex above it (as *ã, õ, ũ*), a very suitable sign: where this is for practical reasons not available, a postposed superior *n* (as a^n, o^n, u^n) is a very good substitute.

Secondly, as regards the consonants. We feel confident that almost no one to whom English is native will find any difficulty in assenting to our author's adoption of the signs *k, g, t, d, p, b, f, v, s, z, h, m, n, y, w, r, l* to represent the values which those letters have in the English words *kick, gig, tit, did, pap, bib, fife, valve, sauce, zeal, hat, mum, nun, ye, woo, rare, lull:* and the larger and more important part of the consonantal system is thus disposed of at a blow. Of the remaining members of the system, those which most press for uniformity of representation, being of widest occurrence, are the palatal nasal and sibilants, the English *ng* in *singing*, *sh* in *she*, and *z* in *azure*. With our views of the connected nature of these sounds, we should prefer to see them distinguished from the lingual *n*, *s*, *z* by the same diacritical sign, a dot or an accent; yet this is not a point which needs to be pressed, and, as above remarked, we should have no difficulty in accepting our author's proposals. Next in consequence are the lingual spirants, the English *th* in *thin* and in *this*. To those who are unwilling to adopt our author's ϑ and δ, the linguals with affixed rough breathing—as *t*ʽ, *d*ʽ—might seem natural and convenient substitutes: evidently, if a *t* is made the basis of the surd sound, a *d* should be that of the sonant. So also with the palatal spirants: if χ and γ be rejected, and if *x* be deemed inadmissible, a *k*ʽ and a *g*ʽ would not be unsuited to take their places. The compounds *ch* and *j*, most accurately represented by the prefixion of a diacritically distinguished *t* and *d* to the signs adopted for the palatal sibilants *sh* and *zh*, may have the diacritical distinction omitted, as by our author, or they may, as exceptional cases, be written by *c* and *j*.

Although the use of compounds with *h* to represent simple sounds is a violation of strict theory, and discordant with the rules by which it is desirable to be governed in the construction of an alphabet, yet there may be cases where practical considerations shall justify the employment of the whole series of such compounds, *sh*, *zh*, *th*, *dh*, *kh*, *gh*, *ch*.

Cases beyond these will be of so exceptional and isolated occurrence that they may, with less danger of serious inconvenience, be left to the good judgment and enlightened insight of those who are called upon to construct alphabetic systems for practical use. No slight responsibility, however, rests upon him who first puts into written characters a virgin tongue, since it is impossible to say of how many individuals and generations the convenience depends upon his work. There can be no better preparation for this than a thorough physical comprehension of the sounds of one's own native speech, and a correct understanding of the history of the signs with which it is written; and a searching and intelligible analysis of the English spoken alphabet must be the most valuable phonetical assistant to any one who, having the English for his mother tongue, is required to study the phonetic system of another language, whether for description or for reduction to a written form.